JCB
THE JOURNAL OF CELL BIOLOGY
VOL. 172, NO. 1, JANUARY 2, 2006

NEWS

In This Issue

2
- Defaulty neurons
- Big bones in p53 mutants
- Xorbiting the spindle
- Selective calcium blockade
- Kar'ted to plus ends

N. LeBrasseur

Research Roundup

4
- Virtual adherens junctions
- Sending the advance party for metastases
- Group effort from poliovirus
- Remodeling replication
- Golgi directs dendritic traffic

W.A. Wells

From The Archive

6
- Filling in the gap: cloning a connexin
- MAP 1C is a motor

K. Powell

Features

9 Seeing is believing? A beginners' guide to practical pitfalls in image acquisition
Alison J. North

RESEARCH ARTICLES

Reports

19 Xorbit/CLASP links dynamic microtubules to chromosomes in the *Xenopus* meiotic spindle
Eva Hannak and Rebecca Heald

Articles

27 Nuclear congression is driven by cytoplasmic microtubule plus end interactions in *S. cerevisiae*
Jeffrey N. Molk, E.D. Salmon, and Kerry Bloom

41 Coupling of the nucleus and cytoplasm: role of the LINC complex
Melissa Crisp, Qian Liu, Kyle Roux, J.B. Rattner, Catherine Shanahan, Brian Burke, Phillip D. Stahl, and Didier Hodzic

55 The yeast lgl family member Sro7p is an effector of the secretory Rab GTPase Sec4p
Bianka L. Grosshans, Anna Andreeva, Akanksha Gangar, Sherry Niessen, John R. Yates III, Patrick Brennwald, and Peter Novick

67 Dynamics of the peroxisomal import cycle of PpPex20p: ubiquitin-dependent localization and regulation
Sébastien Léon, Lan Zhang, W. Hayes McDonald, John Yates III, James M. Cregg, and Suresh Subramani

79 Embryonic stem cells assume a primitive neural stem cell fate in the absence of extrinsic influences
Simon R. Smukler, Susan B. Runciman, Shunbin Xu, and Derek van der Kooy

91 Pax3 and Pax7 have distinct and overlapping functions in adult muscle progenitor cells
Frédéric Relaix, Didier Montarras, Stéphane Zaffran, Barbara Gayraud-Morel, Didier Rocancourt, Shahragim Tajbakhsh, Ahmed Mansouri, Ana Cumano, and Margaret Buckingham

Articles with related stories in the IN THIS ISSUE section have page numbers in RED.

On the cover

Mutations of the CLASP homologue Xorbit cause abnormally shaped spindles and misaligned chromosomes.
See page 19.

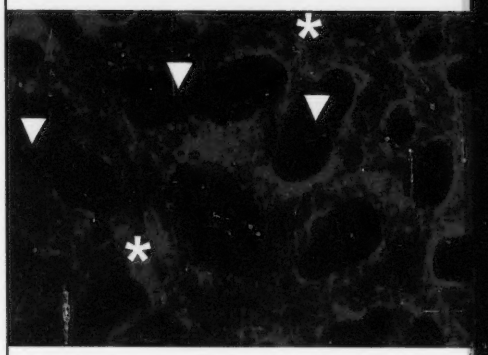
103 Distinct roles for Pax7 and Pax3 in adult regenerative myogenesis
Shihuan Kuang, Sophie B. Chargé, Patrick Seale, Michael Huh, and Michael A. Rudnicki

115 p53 functions as a negative regulator of osteoblastogenesis, osteoblast-dependent osteoclastogenesis, and bone remodeling
Xueying Wang, Hui-Yi Kua, Yuanyu Hu, Ke Guo, Qi Zeng, Qiang Wu, Huck-Hui Ng, Gerard Karsenty, Benoit de Crombrugghe, James Yeh, and Baojie Li

127 Bcl-2 differentially regulates Ca^{2+} signals according to the strength of T cell receptor activation
Fei Zhong, Michael C. Davis, Karen S. McColl, and Clark W. Distelhorst

139 Myc regulates keratinocyte adhesion and differentiation via complex formation with Miz1
Anneli Gebhardt, Michaela Frye, Steffi Herold, Salvador Aznar Benitah, Kristin Braun, Birgit Samans, Fiona M. Watt, Hans-Peter Elsässer, and Martin Eilers

151 Endothelial FAK is essential for vascular network stability, cell survival, and lamellipodial formation
Rickmer Braren, Huiqing Hu, Yung Hae Kim, Hilary E. Beggs, Louis F. Reichardt, and Rong Wang



FAK depletion causes vascular defects, shown by small intercapillary spaces, widened capillaries (*), and incomplete sprouts (arrowheads).
See page 151.

JCB
THE JOURNAL OF CELL BIOLOGY
VOL. 172. NO. 2, JANUARY 16, 2006

NEWS

In This Issue

164
- Repair at the nuclear periphery
- Stat3 stabilizes microtubules
- Sometimes size does matter
- Mobile genes
- NO induces myoblast fusion
  R.S. Tuma

From The Archive

166
- Lipid raft idea is floated
- Making tendons
  K. Powell and M. Leslie

RESEARCH ARTICLES

Report

169 CIB1 is an endogenous inhibitor of agonist-induced integrin αIIbβ3 activation
Weiping Yuan, Tina M. Leisner, Andrew W. McFadden, Zhengyan Wang, Mark K. Larson, Shantres Clark, Christel Boudignon-Proudhon, Stephen C.-T. Lam, and Leslie V. Parise

Articles

177 Coregulated human globin genes are frequently in spatial proximity when active
Jill M. Brown, Joanne Leach, Joyce E. Reittie, Ann Atzberger, Jane Lee-Prudhoe, William G. Wood, Douglas R. Higgs, Francisco J. Iborra, and Veronica J. Buckle

189 Telomere tethering at the nuclear periphery is essential for efficient DNA double strand break repair in subtelomeric region
Pierre Therizols, Cécile Fairhead, Ghislain G. Cabal, Auguste Genovesio, Jean-Christophe Olivo-Marin, Bernard Dujon, and Emmanuelle Fabre

201 Activation-dependent substrate recruitment by the eukaryotic translation initiation factor 2 kinase PERK
Stefan J. Marciniak, Lidia Garcia-Bonilla, Junjie Hu, Heather P. Harding, and David Ron

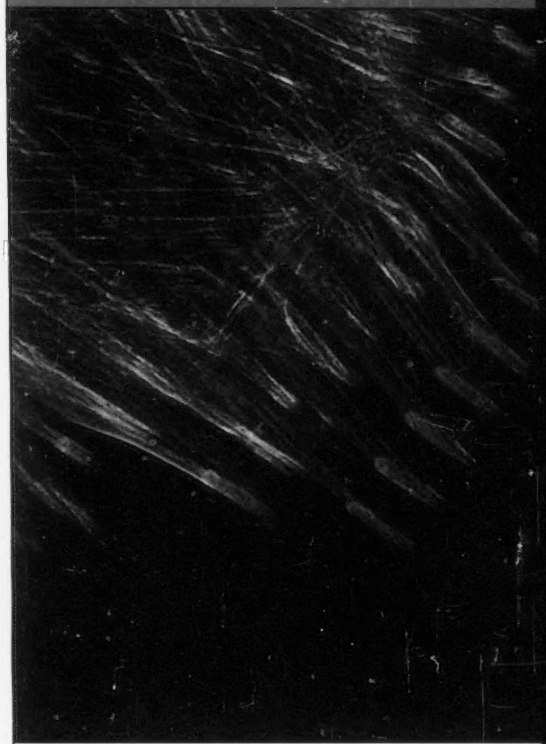
211 The Png1–Rad23 complex regulates glycoprotein turnover
Ikjin Kim, Jungmi Ahn, Chang Liu, Kaori Tanabe, Jennifer Apodaca, Tadashi Suzuki, and Hai Rao

221 The brain-specific double-stranded RNA-binding protein Staufen2 is required for dendritic spine morphogenesis
Berhard Goetze, Fabian Tuebing, Yunli Xie, Mario M. Dorostkar, Sabine Thomas, Ulrich Pehl, Stefan Boehm, Paolo Macchi, and Michael A. Kiebler

233 Follistatin induction by nitric oxide through cyclic GMP: a tightly regulated signaling pathway that controls myoblast fusion
Addolorata Pisconti, Silvia Brunelli, Monica Di Padova, Clara De Palma, Daniela Deponti, Silvia Baesso, Vittorio Sartorelli, Giulio Cossu, and Emilio Clementi

245 Stat3 regulates microtubules by antagonizing the depolymerization activity of stathmin
Dominic Chi Hiung Ng, Bao Hong Lin, Cheh Peng Lim, Guochang Huang, Tong Zhang, Valeria Poli, and Xinmin Cao

Articles with related stories in the IN THIS ISSUE section have page numbers in RED.



On the cover

Myofibroblasts incorporate α-smooth muscle actin (blue) into stress fibers (green) under high tension that are connected to the substrate at large, mature focal adhesions (red).
See page 259.

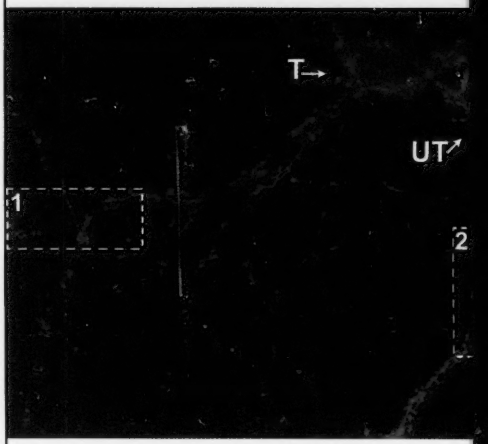
259 Focal adhesion size controls tension-dependent recruitment of α-smooth muscle actin to stress fibers
Jérôme M. Goffin, Philippe Pittet, Gabor Csucs, Jost W. Lussi, Jean-Jacques Meister, and Boris Hinz

269 Coordination between the actin cytoskeleton and membrane deformation by a novel membrane tubulation domain of PCH proteins is involved in endocytosis
Kazuya Tsujita, Shiro Suetsugu, Nobunari Sasaki, Masahiro Furutani, Tsukasa Oikawa, and Tadaomi Takenawa

281 Structural transitions in the synaptic SNARE complex during Ca^{2+}-triggered exocytosis
Xue Han and Meyer B. Jackson

295 An intramolecular t-SNARE complex functions in vivo without the syntaxin NH_2-terminal regulatory domain
Jeffrey S. Van Komen, Xiaoyang Bai, Brenton L. Scott, and James A. McNew

309 Receptor palmitoylation and ubiquitination regulate anthrax toxin endocytosis
Laurence Abrami, Stephen H. Leppla, and F. Gisou van der Goot



Dendrites in neurons lacking Stau2 (T) have altered F-actin (red) networks, extended filopodia, and fewer spines than normal neurons (UT).
See page 221.

JCB
THE JOURNAL OF CELL BIOLOGY
VOL. 172. NO. 3, JANUARY 30, 2006

NEWS

In Memoriam

321 Shoichiro Tsukita: a life exploring the molecular architecture of the tight junction
M. Takeichi

In This Issue

324
- Motherly loss ends cell cycle
- Dividing to their own beat
- Newt insight into regeneration
- mRNAs held back
- Coping strategies weaken cells

N. LeBrasseur

Research Roundup

326
- Hyperdynamic proteins keep stem cells on their toes
- Making *HoxD* waves
- Two-speed cell specification
- *E. coli* squeezed into action
- Aging on the clock

A. Katsnelson

From The Archive

328
- Centrosome choreography
- Passenger proteins check in

M. Leslie

REVIEWS

Comments

331 Checkpoint control of mitotic exit—do budding yeast mind the GAP?
John A. Cooper and Scott A. Nelson

RESEARCH ARTICLES

Articles

335 Disappearance of the budding yeast Bub2–Bfa1 complex from the mother-bound spindle pole contributes to mitotic exit
Roberta Fraschini, Claudio D'Ambrosio, Marianna Venturetti, Giovanna Lucchini, and Simonetta Piatti

347 Asynchronous nuclear division cycles in multinucleated cells
Amy S. Gladfelter, A. Katrin Hungerbuehler, and Peter Philippsen

363 KIF14 and citron kinase act together to promote efficient cytokinesis
Ulrike Gruneberg, Rüdiger Neef, Xiuling Li, Eunice H.Y.Chan, Ravindra B. Chalmalasetty, Erich A. Nigg, and Francis A. Barr

373 In vivo BiFC analysis of Y14 and NXF1 mRNA export complexes: preferential localization within and around SC35 domains
Ute Schmidt, Karsten Richter, Axel Bernhard Berger, and Peter Lichter

383 Derlin-2 and Derlin-3 are regulated by the mammalian unfolded protein response and are required for ER-associated degradation
Yukako Oda, Tetsuya Okada, Hiderou Yoshida, Randal J. Kaufman, Kazuhiro Nagata, and Kazutoshi Mori

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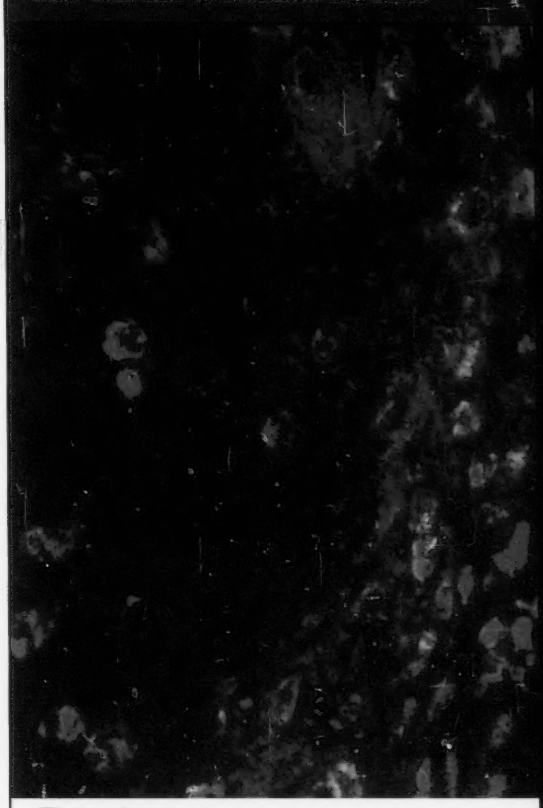


On the cover
Skeletal muscle satellite cell progeny (red) give rise to cartilage (green) during salamander limb regeneration.
See page 433.

395 Adaptation and increased susceptibility to infection associated with constitutive expression of misfolded SP-C
James P. Bridges, Yan Xu, Cheng-Lun Na, Hector R. Wong, and Timothy E. Weaver

409 AP-2α: a regulator of EGF receptor signaling and proliferation in skin epidermis
Xuan Wang, Diana Bolotin, David H. Chu, Lisa Polak, Trevor Williams, and Elaine Fuchs

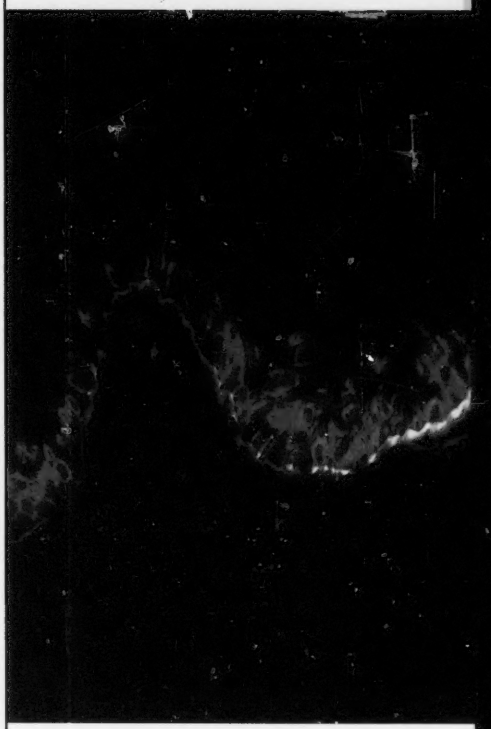
423 P21-activated kinase 1: convergence point in PDGF- and LPA-stimulated collagen matrix contraction by human fibroblasts
Sangmyung Rhee and Frederick Grinnell

433 Salamander limb regeneration involves the activation of a multipotent skeletal muscle satellite cell population
Jamie I. Morrison, Sara Lööf, Pingping He, and András Simon

441 Neuronal cotransport of glycine receptor and the scaffold protein gephyrin
Christoph Maas, Nadia Tagnaouti, Sven Loebrich, Bardo Behrend, Corinna Lappe-Siefke, and Matthias Kneussel

453 Localized recruitment and activation of RhoA underlies dendritic spine morphology in a glutamate receptor–dependent manner
Vanessa Schubert, Jorge Santos Da Silva, and Carlos G. Dotti

469 Evolution of a neuroprotective function of central nervous system myelin
Xinghua Yin, Rena C. Baek, Daniel A. Kirschner, Alan Peterson, Yasuhisa Fujii, Klaus-Armin Nave, Wendy B. Macklin, and Bruce D. Trapp



Without AP-2α, epidermal EGFR expression is elevated. Yet the receptor is only activated (red) in certain areas, such as the ventral thoracic skin.
See page 409.

JCB
THE JOURNAL OF CELL BIOLOGY
VOL. 172. NO. 4, FEBRUARY 13, 2006

NEWS

In This Issue

480
- Unspliced regulator
- Making γ-tubulin ring
- A slow death
- Aneuploidy does not equal aging
- Linking Huntingtin to motility

R.S. Tuma

Research Roundup

482
- Spreading mitochondria
- Monooriented in the middle
- Specialized chaperones
- XX meetings
- APC's order of business

N. LeBrasseur

From The Archive

484
- BFA sends proteins back
- Cadherin as a tumor suppressor
- Active neuronal death

K. Powell and M. Leslie

Meeting Report

486
- Golden Gate Cells: The American Society for Cell Biology San Francisco, CA December 10–14, 2005

N. LeBrasseur and A. Katsnelson

REVIEWS

Comments

495 Nuclear actin: to polymerize or not to polymerize
Wilma A. Hofmann and Primal de Lanerolle

RESEARCH ARTICLES

Reports

497 A novel GTPase, CRAG, mediates promyelocytic leukemia protein–associated nuclear body formation and degradation of expanded polyglutamine protein
Qingyu Qin, Ryoko Inatome, Azusa Hotta, Masaki Kojima, Hirohei Yamamura, Hirokazu Hirai, Toshihiro Yoshizawa, Hirofumi Tanaka, Kiyoko Fukami, and Shigeru Yanagi

Articles

505 NEDD1-dependent recruitment of the γ-tubulin ring complex to the centrosome is necessary for centriole duplication and spindle assembly
Laurence Haren, Marie-Hélène Remy, Ingrid Bazin, Isabelle Callebaut, Michel Wright, and Andreas Merdes

517 *Drosophila melanogaster* γ-TuRC is dispensable for targeting γ-tubulin to the centrosome and microtubule nucleation
Christel Vérollet, Nathalie Colombié, Thomas Daubon, Henri-Marc Bourbon, Michel Wright, and Brigitte Raynaud-Messina

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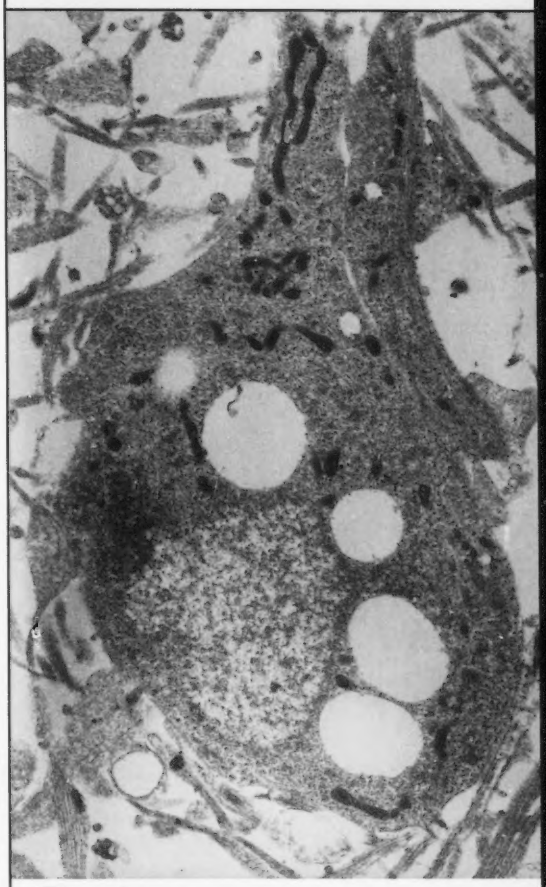

On the cover

Transcriptional repression, a neuronal dysfunction associated with polyglutamine diseases, causes a form of cell death that is unlike apoptosis or necrosis.
See page 589.

529 Early aging–associated phenotypes in Bub3/Rae1 haploinsufficient mice
Darren J. Baker, Karthik B. Jeganathan, Liviu Malureanu, Carmen Perez-Terzic, Andre Terzic, and Jan M.A. van Deursen

541 Nucleoplasmic β-actin exists in a dynamic equilibrium between low-mobility polymeric species and rapidly diffusing populations
Darin McDonald, Gustavo Carrero, Christi Andrin, Gerda de Vries, and Michael J. Hendzel

553 Mdm38 interacts with ribosomes and is a component of the mitochondrial protein export machinery
Ann E. Frazier, Rebecca D. Taylor, David U. Mick, Bettina Warscheid, Nadine Stoepel, Helmut E. Meyer, Michael T. Ryan, Bernard Guiard, and Peter Rehling

565 pXBP1(U) encoded in XBP1 pre-mRNA negatively regulates unfolded protein response activator pXBP1(S) in mammalian ER stress response
Hiderou Yoshida, Masaya Oku, Mie Suzuki, and Kazutoshi Mori

577 A repeated IMP-binding motif controls *oskar* mRNA translation and anchoring independently of *Drosophila melanogaster* IMP
Trent P. Munro, Sunjong Kwon, Bruce J. Schnapp, and Daniel St Johnston

589 Transcriptional repression induces a slowly progressive atypical neuronal death associated with changes of YAP isoforms and p73
Masataka Hoshino, Mei-ling Qi, Natsue Yoshimura, Tomoyuki Miyashita, Kazuhiko Tagawa, Yo-ichi Wada, Yasushi Enokido, Shigeki Marubuchi, Phoebe Harjes, Nobutaka Arai, Kiyomitsu Oyanagi, Giovanni Blandino, Marius Sudol, Tina Rich, Ichiro Kanazawa, Erich E. Wanker, Minoru Saitoe, and Hitoshi Okazawa

605 Huntingtin–HAP40 complex is a novel Rab5 effector that regulates early endosome motility and is up-regulated in Huntington's disease
Arun Pal, Fedor Severin, Barbara Lommer, Anna Shevchenko, and Marino Zerial

619 The tumor suppressor DAPK inhibits cell motility by blocking the integrin-mediated polarity pathway
Jean-Cheng Kuo, Won-Jing Wang, Chung-Chen Yao, Pei-Rung Wu, and Ruey-Hwa Chen

633 Correction

635 Correction

Nuclear actin exists in several different kinetic populations, including polymeric actin, which recovers slowly after photobleaching.
See page 541.

JCB
THE JOURNAL OF CELL BIOLOGY
VOL. 172, NO. 5, FEBRUARY 27, 2006

NEWS

In This Issue

638
- Tandem transcript translation
- The Repo-Man bringeth
- Who Pix up Rac1?
- Par-3 for the cofilin course
- Insulin pathway clears aggregates
  N. LeBrasseur

Research Roundup

640
- Sympathy for stem cells
- Tortoise puts brake on hare
- VWF springs into action
- Trip to the pore
- Metabolic waste smoothes consumption
  W.A. Wells

From The Archive

642
- ECM signals ECM degradation
- Microtubules get dynamic
  K. Powell and W.A. Wells

REVIEWS

Comments

645 Nomenclature for the human Arf family of GTP-binding proteins: ARF, ARL, and SAR proteins
Richard A. Kahn, Jacqueline Cherfils, Marek Elias, Ruth C. Lovering, Sean Munro, and Annette Schurmann

Mini-Reviews

651 A +TIP for a smooth trip
Xin Xiang

RESEARCH ARTICLES

Reports

655 Role of the kinetochore/cell cycle checkpoint protein ZW10 in interphase cytoplasmic dynein function
Dileep Varma, Denis L. Dujardin, Stephanie A. Stehman, and Richard B. Vallee

663 Functional modulation of IFT kinesins extends the sensory repertoire of ciliated neurons in *Caenorhabditis elegans*
James E. Evans, Joshua J. Snow, Amy L. Gunnarson, Guangshuo Ou, Henning Stahlberg, Kent L. McDonald, and Jonathan M. Scholey

671 Par-3 mediates the inhibition of LIM kinase 2 to regulate cofilin phosphorylation and tight junction assembly
Xinyu Chen and Ian G. Macara

Articles

679 Repo-Man recruits PP1γ to chromatin and is essential for cell viability
Laura Trinkle-Mulcahy, Jens Andersen, Yun Wah Lam, Greg Moorhead, Matthias Mann, and Angus I. Lamond

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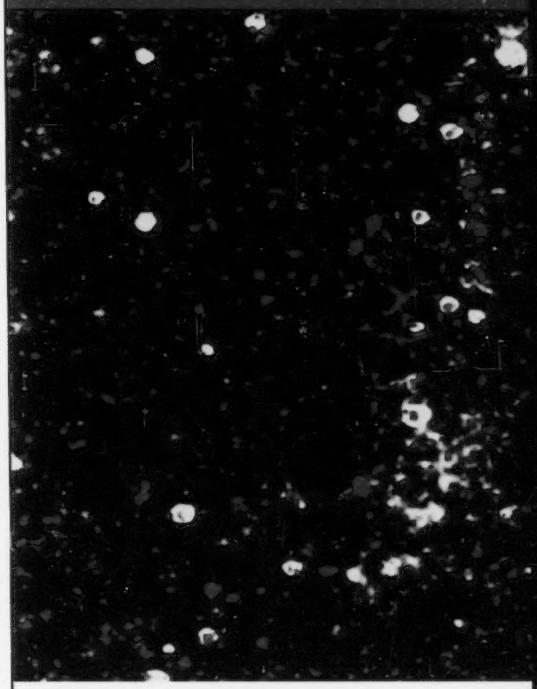


On the cover

Colocalization (red) of peripherin protein (purple) and its mRNA (yellow) might promote the cotranslational assembly of peripherin precursor particles.
See page 747.

693 The Vac14p–Fig4p complex acts independently of Vac7p and couples PI3,5P_2 synthesis and turnover
Jason E. Duex, Fusheng Tang, and Lois S. Weisman

705 Recycling of ESCRTs by the AAA-ATPase Vps4 is regulated by a conserved VSL region in Vta1
Ishara Azmi, Brian Davies, Christian Dimaano, Johanna Payne, Debra Eckert, Markus Babst, and David J. Katzmann

719 Autophagy-mediated clearance of huntingtin aggregates triggered by the insulin-signaling pathway
Ai Yamamoto, M. Laura Cremona, and James E. Rothman

733 A motor neuron disease–associated mutation in $p150^{Glued}$ perturbs dynactin function and induces protein aggregation
Jennifer R. Levy, Charlotte J. Sumner, Juliane P. Caviston, Mariko K. Tokito, Srikanth Ranganathan, Lee A. Ligon, Karen E. Wallace, Bernadette H. LaMonte, George G. Harmison, Imke Puls, Kenneth H. Fischbeck, and Erika L.F. Holzbaur

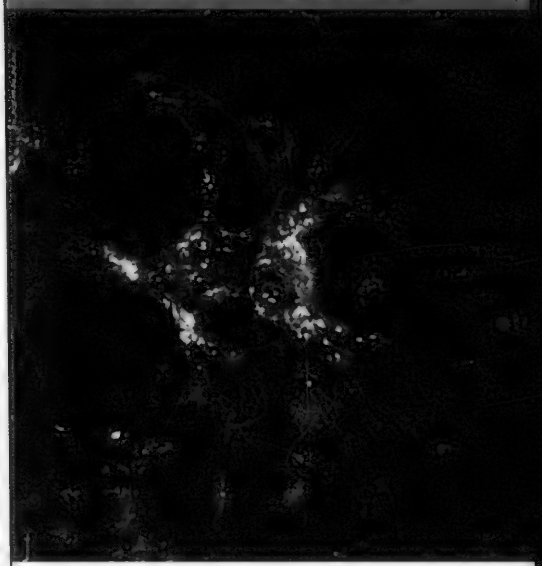
747 Assembling an intermediate filament network by dynamic cotranslation
Lynne Chang, Yaron Shav-Tal, Tatjana Trcek, Robert H. Singer, and Robert D. Goldman

759 Targeting and activation of Rac1 are mediated by the exchange factor β-Pix
Jean Paul ten Klooster, Zahara M. Jaffer, Jonathan Chernoff, and Peter L. Hordijk

771 Genetic ablation of zyxin causes Mena/VASP mislocalization, increased motility, and deficits in actin remodeling
Laura M. Hoffman, Christopher C. Jensen, Susanne Kloeker, C.-L. Albert Wang, Masaaki Yoshigi, and Mary C. Beckerle

OSM-3 and kinesin-II are both needed to build worm amphid channel cilia (shown), which extend distal singlets, but are redundant for building amphid wing cilia, which lack singlets.
See page 663.

JCB
THE JOURNAL OF CELL BIOLOGY
VOL. 172, NO. 6, MARCH 13, 2006



On the cover

Neurons trigger the retrograde transport of a myelin protein (green) from late endosomes/lysosomes (red) to the surface of oligodendrocytes.
See page 937.

NEWS

In This Issue

784
- DNA stays put
- Knocking out malaria in one punch
- Exosomes at the plasma membrane
- Neighbors control trafficking
- Exit without separase

R.S. Tuma

Research Roundup

786
- Anchored telomeres get longer
- Killer K-Ras
- Skating on MTs
- Virus diverts checkpoint
- Hungry for better memory

K. Powell

From The Archive

788
- Chromosome snatching by lateral microtubules
- In vitro nuclear import

K. Powell and M. Leslie

REVIEWS

Comments

791 *Drosophila* Cajal bodies: accessories not included
A. Gregory Matera

795 Skeletons in the p53 tumor suppressor closet: genetic evidence that p53 blocks bone differentiation and development
Gerard P. Zambetti, Edwin M. Horwitz, and Ernestina Schipani

799 Myelin under construction—teamwork required
Tatiana Boiko and Bettina Winckler

Mini-Reviews

803 RNA granules
Paul Anderson and Nancy Kedersha

RESEARCH ARTICLES

Reports

809 The *Drosophila melanogaster* Apaf-1 homologue ARK is required for most, but not all, programmed cell death
Kathryn Mills, Tasman Daish, Kieran F. Harvey, Cathie M. Pfleger, Iswar K. Hariharan, and Sharad Kumar

817 Sos-mediated activation of rac1 by p66shc
Firdous A. Khanday, Lakshmi Santhanam, Kenji Kasuno, Tohru Yamamori, Asma Naqvi, Jeremy DeRicco, Artem Bugayenko, Ilwola Mattagajasingh, Andrea Disanza, Giorgio Scita, and Kaikobad Irani

Articles with related stories in the IN THIS ISSUE section have page numbers in RED; articles with COMMENTS have page numbers in BLUE.

Articles

823 Changes in chromatin structure and mobility in living cells at sites of DNA double-strand breaks
Michael J. Kruhlak, Arkady Celeste, Graham Dellaire, Oscar Fernandez-Capetillo, Waltraud G. Müller, James G. McNally, David P. Bazett-Jones, and André Nussenzweig

835 The selective continued linkage of centromeres from mitosis to interphase in the absence of mammalian separase
Kazuki Kumada, Ryoji Yao, Tokuichi Kawaguchi, Mika Karasawa, Yutaka Hoshikawa, Koji Ichikawa, Yoshinobu Sugitani, Issei Imoto, Johji Inazawa, Minoru Sugawara, Mitsuhiro Yanagida, and Tetsuo Noda

847 Separase: a universal trigger for sister chromatid disjunction but not chromosome cycle progression
Karin G. Wirth, Gordana Wutz, Nobuaki R. Kudo, Chantal Desdouets, Anders Zetterberg, Shahryar Taghybeeglu, Janina Seznec, Germain M. Ducos, Romeo Ricci, Nicole Firnberg, Jan-Michael Peters, and Kim Nasmyth

861 Analysis of kinesin motor function at budding yeast kinetochores
Jessica D. Tytell and Peter K. Sorger

875 The *Drosophila melanogaster* Cajal body
Ji-Long Liu, Christine Murphy, Michael Buszczak, Sarah Clatterbuck, Robyn Goodman, and Joseph G. Gall

885 ERK1c regulates Golgi fragmentation during mitosis
Yoav D. Shaul and Rony Seger

899 A Maurer's cleft–associated protein is essential for expression of the major malaria virulence antigen on the surface of infected red blood cells
Brian M. Cooke, Donna W. Buckingham, Fiona K. Glenister, Kate M. Fernandez, Lawrence H. Bannister, Matthias Marti, Narla Mohandas, and Ross L. Coppel

909 Osteoblast differentiation and skeletal development are regulated by Mdm2–p53 signaling
Christopher J. Lengner, Heather A. Steinman, James Gagnon, Thomas W. Smith, Janet E. Henderson, Barbara E. Kream, Gary S. Stein, Jane B. Lian, and Stephen N. Jones

923 Exosomes and HIV Gag bud from endosome-like domains of the T cell plasma membrane
Amy M. Booth, Yi Fang, Jonathan K. Fallon, Jr-Ming Yang, James E.K. Hildreth, and Stephen J. Gould

937 Neuron to glia signaling triggers myelin membrane exocytosis from endosomal storage sites
Katarina Trajkovic, Ajit Singh Dhaunchak, José T. Goncalves, Dirk Wenzel, Anja Schneider, Gertrude Bunt, Klaus-Armin Nave, and Mikael Simons

949 Correction

951 Correction

953 Correction

Cajal bodies (green) are found adjacent to nucleoli (red) in follicle cell nuclei of the fly ovary.
See page 875.

Osteoblast progenitor cells deleted for Mdm2 undergo a p53-dependent growth arrest that blocks bond formation.
See page 909.

JCB
THE JOURNAL OF CELL BIOLOGY
VOL. 172, NO. 7, MARCH 27, 2006

NEWS

In This Issue

956
- Direct is correct
- A MAP's stabilizing mechanism
- Escaping a checkpoint
- Serum keeps order in the wound
- Neurons survive with NCS-1

N. LeBrasseur

Research Roundup

958
- Analogue brains
- Curing TB with sunlight
- Stepwise receptor activation
- Nuclear actin filaments
- Kinetochore to order

W.A. Wells

From The Archive

960
- Skeleton crew
- Cyclin localization controls activity

M. Leslie

REVIEWS

Comments

963 Controversy fuels trafficking of GPI-anchored proteins
Sebastian Schuck and Kai Simons

Mini-Reviews

967 Molecular functions of nuclear actin in transcription
Piergiorgio Percipalle and Neus Visa

973 The epithelial–mesenchymal transition: new insights in signaling, development, and disease
Jonathan M. Lee, Shoukat Dedhar, Raghu Kalluri, and Erik W. Thompson

RESEARCH ARTICLES

Reports

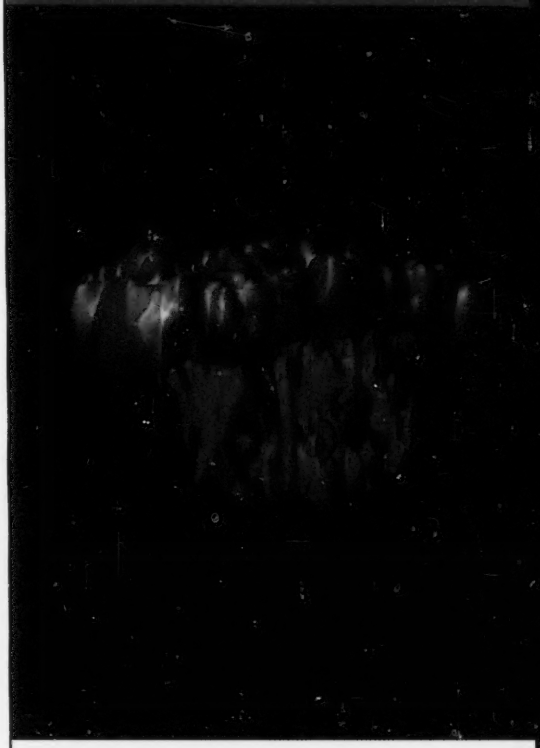
983 Serpin squamous cell carcinoma antigen inhibits UV-induced apoptosis via suppression of c-JUN NH_2-terminal kinase
Chika Katagiri, Jotaro Nakanishi, Kuniko Kadoya, and Toshihiko Hibino

991 A role for the RabA4b effector protein PI-4Kβ1 in polarized expansion of root hair cells in *Arabidopsis thaliana*
Mary L. Preuss, Aaron J. Schmitz, Julie M. Thole, Heather K.S. Bonner, Marisa S. Otegui, and Erik Nielsen

Articles

999 Checkpoint silencing during the DNA damage response in *Caenorhabditis elegans* embryos
Antonia H. Holway, Seung-Hwan Kim, Adriana La Volpe, and W. Matthew Michael

Articles with related stories in the IN THIS ISSUE section have page numbers in RED; articles with COMMENTS have page numbers in BLUE.



On the cover

GPI-linked proteins (red) are transported directly from the TGN (green) to the apical surface in polarized epithelial cells.
See pages 1023 and 1035.

1009 Stu2p binds tubulin and undergoes an open-to-closed conformational change
Jawdat Al-Bassam, Mark van Breugel, Stephen C. Harrison, and Anthony Hyman

1023 GPI-anchored proteins are directly targeted to the apical surface in fully polarized MDCK cells
Simona Paladino, Thomas Pocard, Maria Agata Catino, and Chiara Zurzolo

1035 Vectorial insertion of apical and basolateral membrane proteins in polarized epithelial cells revealed by quantitative 3D live cell imaging
Wei Hua, David Sheff, Derek Toomre, and Ira Mellman

1045 CHMP5 is essential for late endosome function and down-regulation of receptor signaling during mouse embryogenesis
Jae-Hyuck Shim, Changchun Xiao, Matthew S. Hayden, Ki-Young Lee, E. Sergio Trombetta, Marc Pypaert, Atsuki Nara, Tamotsu Yoshimori, Bettina Wilm, Hediye Erdjument-Bromage, Paul Tempst, Brigid L.M. Hogan, Ira Mellman, and Sankar Ghosh

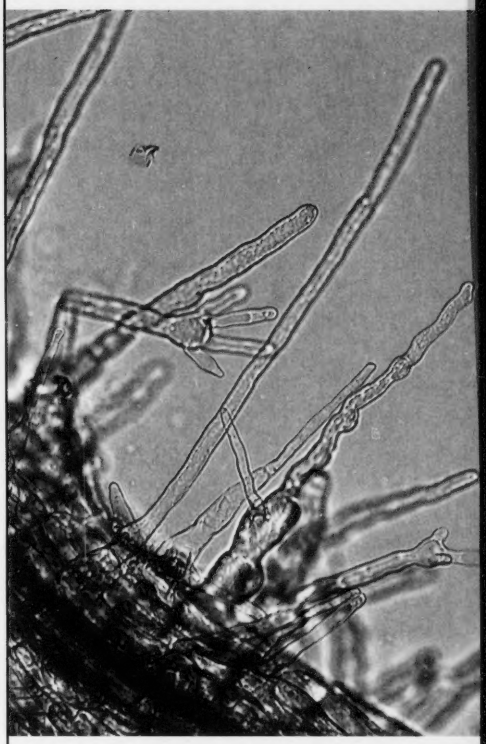
1057 CpG-induced tyrosine phosphorylation occurs via a TLR9-independent mechanism and is required for cytokine secretion
Miguel A. Sanjuan, Navin Rao, Kuei-Tai A. Lai, Yin Gu, Siquan Sun, Anja Fuchs, Wai-Ping Fung-Leung, Marco Colonna, and Lars Karlsson

1069 Two distinct cytoplasmic regions of the β_2 integrin chain regulate RhoA function during phagocytosis
Agnès Wiedemann, Jayesh C. Patel, Jenson Lim, Andy Tsun, Yvette van Kooyk, and Emmanuelle Caron

1081 Novel role of neuronal Ca^{2+} sensor-1 as a survival factor up-regulated in injured neurons
Tomoe Y. Nakamura, Andreas Jeromin, George Smith, Hideaki Kurushima, Hitoshi Koga, Yusaku Nakabeppu, Shigeo Wakabayashi, and Junichi Nabekura

1093 A "traffic control" role for TGFβ3: orchestrating dermal and epidermal cell motility during wound healing
Balaji Bandyopadhyay, Jianhua Fan, Shengxi Guan, Yong Li, Mei Chen, David T. Woodley, and Wei Li

1107 Correction



Bulged and branched root hair cells that display irregular changes in directional growth arise in the absence of PI-4Kβ1/β2 activity in *A. thaliana*.
See page 991.